



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/616,559 | 07/10/2003 | Richard Glassell | 28337.00 | 2793 |

22465 7590 08/11/2005

PITTS AND BRITTIAN P C
P O BOX 51295
KNOXVILLE, TN 37950-1295

| |
|----------|
| EXAMINER |
|----------|

IMAM, ALI M

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

3737

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|---------------------------------|--|
| Office Action Summary | Application No. 10/616,559 | Applicant(s) GLASSELL ET AL. | |
| | Examiner Ali Imam | Art Unit 3737 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5/23/5 (Amendment).
 2a) ☒ This action is FINAL. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-18 and 20-28 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-4, 6-18 and 20-28 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 10 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. In response to the amendment filed 05/23/2005, all necessary changes to the claims have been entered.

Response to Arguments

2. Applicant's arguments filed 05/23/2005 have been fully considered but they are not persuasive. Applicant's core argument that Wilk does not teach the claimed "time-of-flight" limitation. The examiner respectfully disagrees. Time-of-flight merely means the time required for the ultrasound to reach the receiver. Since Wilk teaches transmitter and receivers for receiving ultrasound reflection, it is inherent that such ultrasound receive data would associate with a reflection and a time-of-flight of the transmitted signal. Furthermore, the added new claims do not add anything to the patentability because data acquiring process including initiating a background noise test, initiating a distance test, and performing a tissue data collection or initiating a transmitted signal, receiving a plurality of signals from the plurality of receivers, and determining a direct line-of-flight component and a reflected signal component from at least two of the plurality of signals are well known in the art of ultrasound imaging in order to improve data processing.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

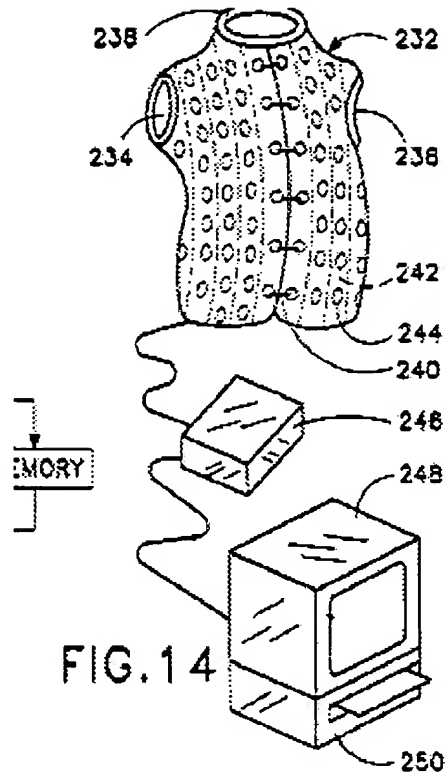
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 3737

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 4, and 10-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Wilk (US 5,871,446).

In regard to claims 1, 4, and 10-12 and Wilk teaches in Fig. 14 a cancer detection system for mapping breast tissue to detect localized tissue comprising: a garment (232) (means for positioning) adapted to fit over at least one breast, a plurality of sensors (244) (means for acquiring data) mounted on the garment, wherein the plurality of sensors inherently including at least one transmitter and a plurality of receivers, wherein each of said plurality of sensors having a surface adapted to be in direct contact with at least one breast (see Fig. 14 below), the plurality of sensors being ultrasonic (col. 14, line 50); and a processing device (246) in communication with the plurality of sensors, wherein the processing device controlling the at least one transmitter, and acquiring and storing data received from the plurality of receivers. The specific limitation of “time-of-flight” is inherently taught by Wilk since time-of-flight merely means the time required for the ultrasound to reach the receiver. Since Wilk teaches transmitter and receivers for receiving ultrasound reflection, it is inherent that such ultrasound receive data would associate with a reflection and a time-of-flight of the transmitted signal.



5. Claims 1-4, 6-18, and 20-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Hong (US 6,478,739 B1).

Hong teaches a cancer detection system for mapping breast tissue to detect localized tissue comprising: a bra-type garment (2) (means for positioning) adapted to fit over at least one breast, a plurality of sensors (28) (means for acquiring data) mounted on the garment, wherein the plurality of sensors inherently including at least one transmitter and a plurality of receivers, wherein each of the plurality of sensors having a surface adapted to be in direct contact with at least one breast (see Fig. 1 below), the plurality of sensors being ultrasonic (col. 4, line 55); and a processing device (36) in communication with the plurality of sensors, wherein the processing device controlling the at least one transmitter, acquiring and storing data received from the plurality of receivers, programmed to check the time-of-flight for each detected signal.

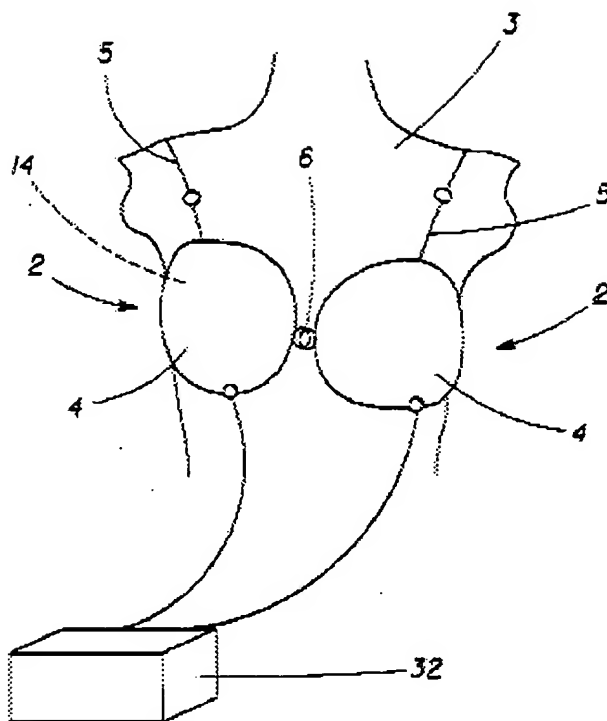


Fig. 1

Hong further teaches that the system includes a coupling agent for providing connectivity between the sensors and at least one breast (see Fig. 4 item 18).

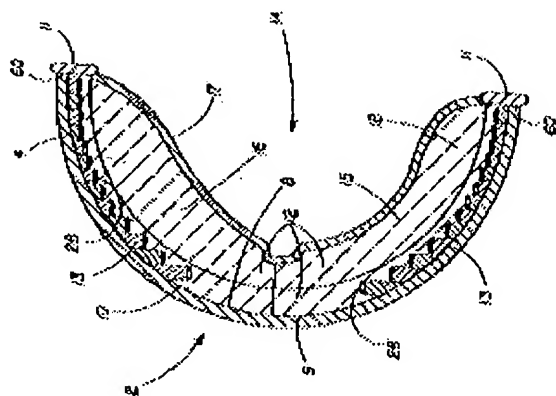


Fig. 4

Art Unit: 3737

The specific limitations of remote processing are well known in the art. Furthermore, breast tissue examination device of Hong inherently teaches the steps and structures for constructing a chronological profile of the patient's tissue. In regard to the added new claims 27 and 28, the processing device of Hong teaches the claimed structures for executing a process for acquiring data which includes initiating a background noise test, initiating a distance test, and performing a tissue data collection or initiating a transmitted signal, receiving a plurality of signals from the plurality of receivers, and determining a direct line-of-flight component and a reflected signal component from at least two of the plurality of signals.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Art Unit: 3737

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ali Imam whose telephone number is 571-272-4737. The examiner can normally be reached on Mon. - Th., 8:00- 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ali Imam
Primary Examiner
Art Unit 3737

AI
8/1/5